1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/25/2009 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Steven D. Jinks on December 18, 2009.

The application has been amended as follows:

In the claims:

Claim 1 has been amended as follows:

1. (Currently Amended) A tire building drum comprising:

a pair of bead lock means adapted to be displaced toward and away from each other and expanded or contracted radially;

carcass band folding-back means positioned adjacent to the bead lock means, respectively;

a center shaft for supporting these means;

~~at least one~~ a core body at an axial inside of said bead lock means, said core body comprising a plurality of rigid support members toroidally disposed and adapted to be radially displaced ~~and~~ to thereby expand or contract the core body; and

a center bladder, deformable for expansion or contraction, which extends at a radial outside of said core body, and which has both axial side portions adapted to be displaced toward and away from each other integrally with said bead lock means, respectively;

wherein the center bladder is expandable or contractible independently of the movement of the rigid support members, both in axial and radial directions, and thereby fully expands a carcass band to a toroidal shape independent of the core body, and

wherein the core body is constructed such that, in a partially radially expanded state to a height where axially opposite side surfaces of each of the rigid support members correspond to radial positions of bead cores, the axially opposite side surfaces of each of the rigid support members provide support from an axial inside for axially opposite side surfaces of the carcass band expanded to toroidal shape by the center bladder at a position corresponding to a radial position of bead cores when the carcass band folding-back means is actuated, and the core body being radially expandable to a maximum diameter to provide support for the toroidal carcass band

over a full width to provide a solid bonding surface for assembling additional tire component members including belt members and a tread rubber.

Non-elected claims 4 and 17-21 have been canceled as follows:

4. (Canceled)

17-21. (Canceled)

Summary of above-noted December 18, 2009 Interview: Agreement was reached on the changes detailed above to place this application into condition for allowance. These changes were proposed by the examiner by facsimile to applicant's representative on 12/15/2009 with the following comments by the examiner included: "These changes are proposed to (1) clarify that the side surfaces of the rigid support members can provide support from an axial inside for side surfaces of *the shaped carcass band* (i.e. not just the bladder), (2) clarify that the core body can also be expanded further to a maximum diameter to provide support for assembling additional components including the belt and tread (to clarify that the core body does not simply and only provide shoulders for receipt of beads as would be well known) and (3) to clarify that the claims are directed to the elected embodiments where the drum has a single core body by defining that the axially opposite side surfaces of *each* of the rigid support members can provide support to the axially opposite side surfaces of the expanded carcass band from an axial inside

(as opposed to the "third" embodiment (figs. 13+) that has two core bodies where each of the core bodies would not be so operative), and defining that the support in the fully expanded state is over a full width (as set forth in paragraph [0023]). It is noted that the present claim 1 as amended is not generic to the non-elected embodiment as various features in claim 1 such as the independent expandability of the bladder to fully expand the carcass independent of the core body, partial core body expansion for support as the folding means are actuated and integral displacement of the bladder with the bead locks are not clearly described as features of the "third" non-elected embodiment. This proposal is supported by the invention of the elected embodiments as described for example in paragraphs [0023], [0098] and [0120]+ in the specification and original claim 22 as well as illustrated in figs. 9-11. I am also proposing cancelling non-elected claims 4 and 17-21."

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Among the closest prior art, Mallory (US 3,833,445) discloses a tire building drum including a pair of bead locks (70) that can be expanded and contracted, as well as movable towards and away from each other (e.g. see figs. 11+), carcass band folding back means (184) and a center shaft (32). Further, the drum includes a core body (8) axially inside the bead locks and including rigid support members toroidally disposed and adapted to be expanded/contracted as well as to provide full width support for assembling a belt and tread (fig. 13). A center bladder (36) radially outside the core

body and which moves axially integrally with the bead locks is also provided. Further, the bladder is expandable/contractible by inflation (e.g. col. 12, lines 1-16), this inflation/deflation capability being apparently independent of movement of the core body (since deflation can occur while the core body remains expanded - e.g. fig. 18 and col. 12, lines 40-49). Mallory '445 however expands the carcass to toroidal shape using the core body and does not clearly suggest a capability of the center bladder to fully expand the carcass band to toroidal shape independent of the core body as claimed. Further, the drum is not constructed such that opposite side surfaces of the rigid support members of the core body, when partially radially expanded to a radial position of the bead cores, can provide support to side surfaces of the carcass band expanded to toroidal shape by the center bladder at a radial position of the bead cores when the folding back means are actuated as claimed. Such support is instead provided by backup means (80). In another embodiment, Mallory '445 includes shaped backup means (271 - figs. 22-25) pivoted to the core body but support for side surfaces of the carcass at the beads in a partially radially expanded state of the core body is not shown or obvious. This embodiment also does not show bead lock means or a center bladder configured and operable as claimed. Mallory (US 4,007,081) and Mallory (US 3,795,564) show similar drum configurations but likewise fail to suggest or render obvious a core body and center bladder configured and operable as claimed.

Casey (US 3,867,231) discloses a tire building drum with radially expandable drum segments (16) that can provide some side support and a bladder (14) that can expand a carcass band to toroidal shape (e.g. fig. 1). These drum segments do not

however correspond to the claimed core body as they are not radially expandable to a maximum diameter to provide full width support for the toroidal carcass band to provide a solid bonding surface for assembling a belt and tread. Note that the toroidal carcass is only supported by the inflated sleeve (14) during assembly with the belt and tread (e.g. col. 7, lines 29-35).

Akiyama (US 2003/0047284) discloses a tire building drum that would appear to provide side support at the beads in a partially expanded state (e.g. fig. 9) as well as support in a fully expanded state (e.g. fig. 10). This drum however has a pair of core bodies (30) having segments that each could only support a single side of the carcass rather than essentially a single core body where axially opposite side surfaces of each rigid support member thereof can support opposite side surfaces of a toroidally expanded carcass band as claimed. Akiyama also fails to teach or render obvious a drum where the center bladder is expandable independently of movement of the rigid support members to thereby expand a carcass band to a toroidal shape independent of the core body as claimed.

None of the closest prior art, then, whether taken singly or in combination would teach or render obvious a tire building drum, or method for its use, as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
December 18, 2009